

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte YUKIHISA KATO,  
NAOYA HIRAYAMA,  
TOSHIKAZU OMORI,  
MUNEHIRO HOSHINO,  
and  
YUTAKA FUJII

---

Appeal No. 2004-2197  
Application No. 09/144,851

---

HEARD: Jan. 12, 2005

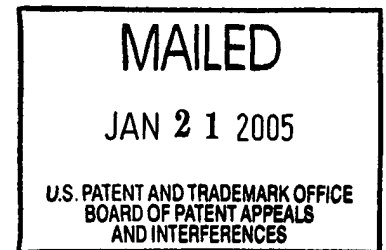
---

Before PAK, OWENS, and DELMENDO, Administrative Patent Judges.  
DELMENDO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 (2004) from the examiner's final rejection of claims 21 through 24 and 27 through 31 in the above-identified application (final Office action mailed Jan. 9, 2003).

The subject matter on appeal relates to a method for producing a fruit vinegar. According to the appellants, "it has been found [in citrus fruit juices used as starting materials



for vinegar production] that the citric acid damages the activity of the acetic acid bacteria used in making vinegar" and "that when citric acid is removed from citric fruit juice, the pH of the juice increases and there is no interference with the action of acetic acid bacteria." (Appeal brief filed on Nov. 28, 2003 at 3.) Further details of this appealed subject matter are recited in representative claim 21, the sole independent claim on appeal, reproduced below:

21. A method for producing a fruit vinegar comprising subjecting to acetic acid fermentation by acetic acid bacteria in the presence of ethanol one member selected from the group consisting of (a) and (b), wherein
- (a) is a member selected from the group consisting of lemon juice, lime juice, yuzu juice, kabosu juice, sudachi juice, and shii kuwasa juice, wherein said member is
    - (1) juice having naturally a pH value of 3.0 or more;
    - (2) juice having a pH value of 3.0 or more adjusted, not by addition of an agent to neutralize citric acid but by reducing citric acid content by from 50 to 100% by weight, or
    - (3) a mixture of (1) and (2); and
  - (b) a dilution of (a);
- wherein the reducing of citric acid content in (2) has been effected by
- (i) adding calcium carbonate to the member to precipitate calcium citrate and removing the calcium citrate or
  - (ii) contacting the member with an anion exchange resin to remove citric acid therefrom.

Appeal No. 2004-2197  
Application No. 09/144,851

The examiner relies on the following prior art references  
as evidence of unpatentability:

Castillon et al. <sup>1</sup>	5,415,775	May 16, 1995
(Castillon)		

Saike et al. <sup>2,3</sup>	4-190780	Jul. 9, 1992
(Saike) (published unexamined (JP application)		

Ron S. Jackson, Wine Science: Principles and Applications 229,  
279-80 (Academic Press 1993).

Claims 21 through 24 and 27 through 30 on appeal stand  
rejected under 35 U.S.C. § 103(a) as unpatentable over Saike in  
view of Jackson. (Answer at 3-4.) In addition, claim 31 on  
appeal stands rejected under 35 U.S.C. § 103(a) as unpatentable  
over Saike in view of Jackson and further in view of Castillon.  
(Id. at 4.)

We reverse both rejections.

---

<sup>1</sup> Castillon is not listed in the "Prior Art of Record"  
section of the answer but was relied upon as evidence in support  
of obviousness in the final Office action. (Answer at 2; final  
Office action at 2.)

<sup>2</sup> Both the appellants and the examiner identify this  
reference as "Seike." (Appeal brief at 4; examiner's answer  
mailed Feb. 17, 2004 at 2.)

<sup>3</sup> In our discussion below, we rely on the United States  
Patent and Trademark Office English language translation of  
record.

Saike discloses a process for producing transparent fruit vinegar having good flavor and taste. (Translation at 5.) Specifically, Saike teaches clarifying 100% citrus fruit juice by action of pectinase enzyme, adding sodium citrate to adjust the pH to 4.6, heat sterilizing the juice at 60°C for 30 minutes and then cooling, adding ethanol "so as to occupy 6 percent of the adjusted clear fruit juice," transferring the product to a fermentation tank for acetic acid fermentation at a specified temperature until the acetic acid concentration reaches 5.0%, maturing the product at a temperature of 25°C or below for 5 to 6 months, filtering to eliminate waste microbes, and then adding 100% fruit juice obtained by squeezing unripe citrus fruit. (Translation at 6-7.)

Jackson teaches that "[j]uice and must failing to possess the desired acidity and pH may be adjusted before fermentation." (Jackson at 229.) According to Jackson, "deacidification typically occurs after fermentation, when its effect on acidity is known." (Id.) Jackson further teaches that deacidification may involve neutralization by addition of "calcium carbonate, potassium carbonate, or Acidex." (Id.)

The examiner acknowledges that Saike "does not teach the claimed citric acid reduction treatment." (Answer at 3.)

Appeal No. 2004-2197  
Application No. 09/144,851

Nevertheless, it is the examiner's position that "[i]t would have been obvious to those of ordinary skill in the art to deacidify the fruit juices of Seike [as shown in Jackson] in order to modify the flavor of the final product." (Id. at 3-4.)

We cannot agree with the examiner's analysis. As pointed out by the appellants (appeal brief at 12-13), Jackson provides no teaching, motivation, or suggestion to modify Saike's process such that calcium carbonate is added to precipitate calcium citrate and then removing the calcium citrate from the juice prior to fermentation as recited in appealed claim 21.

Because the examiner did not account for this crucial claim limitation in the obviousness analysis, we cannot affirm. In re Geerdes, 491 F.2d 1260, 1262-63, 180 USPQ 789, 791 (CCPA 1974).


The examiner relies on Castillo for reasons unrelated to the basic deficiency in the combination of Saike and Jackson. (Answer at 4.) Accordingly, it is unnecessary to discuss this reference in our decision.

For these reasons, we reverse the examiner's rejections under 35 U.S.C. § 103(a) of: (i) appealed claims 21 through 24 and 27 through 30 as unpatentable over Saike in view of Jackson; and (ii) appealed claim 31 as unpatentable over Saike in view of Jackson and further in view of Castillon.

Appeal No. 2004-2197  
Application No. 09/144,851

The decision of the examiner is reversed.

REVERSED

  
Chung K. Pak

Chung K. Pak  
Administrative Patent Judge

Terry J. Owens  
Terry J. Owens

Terry J. Owens  
Administrative Patent Judge

Ronald H. Schmitt

Romulo H. Delmendo  
Administrative Patent Judge

BOARD OF PATENT

APPEALS AND

## INTERFERENCES

RHD/kis

Appeal No. 2004-2197  
Application No. 09/144,851

BROWDY & NEIMARK PLLC  
624 NINTH STREET, N.W.  
SUITE 300  
WASHINGTON, DC 20001-5303